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Jay C. Keithley
Vice President
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United Telephone Companies

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APR 21 1992

April 21, 1992

Federal Communications Commission
Office of the Secretary

Ms. Donna R. Searcy
Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

RE: In the Matter of Local Exchange Carrier Line Information Database
CC Docket No. 92-24

Dear Ms. Searcy,

Attached are the original and seven copies of the Direct Case of the United Telephone Companies in the proceeding referenced above.

Sincerely,

A handwritten signature in cursive script that reads "Jay C. Keithley".

Jay C. Keithley
Vice President
Law and External Affairs

Attachments

JCK/mlm

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APR 21 1992

**Federal Communications Commission
Office of the Secretary**

**DIRECT CASE OF THE
UNITED TELEPHONE COMPANIES**

Background

1. Southwestern Bell Telephone company, Petitions for Waiver of Part 69 of the Commission's Rules, DA 91-1258, 6 FCC Rcd 6095 (Com.Car.Bur. 1991) (Southwestern Bell LIDB Order).

flat rate charge for STP port termination, and (2) a flat rate charge per dedicated line between an IXC's Signaling Point of Interface ("SPOI") and Southwestern's STP.

On November 15, 1991, United filed a petition seeking the waivers that were granted Southwestern. Also, on November 15, 1991, United filed Transmittal 287, (and supporting Description and Justification ("D&J")) that would create the new LIDB Access and CCS/SS7 Interconnection rates that Southwestern was allowed to create. Subsequently the Commission granted the waivers and allowed the proposed rates in Transmittal 287 to become effective, after suspending Transmittal 287 for one day, imposing an accounting order, and initiating an investigation.² The instant ORDER designated the following issues for investigation.

ISSUES FOR INVESTIGATION

I. ISSUE: Have the LECs adequately described the LIDB query service in the tariffs? The ORDER specifically expresses interest in several areas where potential LIDB customers have asked that additional information be included in the LIDB tariff. These areas include "call gapping", frequency of database updates, LEC liability for fraud and erroneous information in the database, referenced technical publications and additional technical parameters.³

2. In the Matter of Local Exchange Carrier Line Information Database, DA 91-1637, Order, Com.Car.Bur., released December 30, 1991, at Paras. 15 and 53.

3. As noted in United's response to the second designated issue, no additional information on referenced technical publications or technical parameters is necessary.

RESPONSE: Additional information regarding "call gapping" is not necessary. "Call Gapping" standards for the industry were established by the T1S1 committee of the Exchange Carriers Standards Association ("ECSA"). These standards were used by manufacturers in designing and producing their SCPs and SSPs. The "call gapping" capabilities inherent in United's SS7 network are therefore the products of industry standards and are set out in Technical Publication TR-TSV-000954 and Technical Publication TR-NWT-000029.

The entities requesting more detail about database updates and liability for fraud and inaccurate information disregard the nature of the service being offered. LIDB Access Service is not intended, nor does it purport to be a guarantor that no fraud will ever occur for credit card, collect, or third number billed calls. As with 1+ toll calling, there is no assurance that charges for every call will be paid and that every person placing a call is authorized to do so. United is committed to maintaining an accurate LIDB database. To the extent inaccuracies exist or fraud occurs, United is subject to the same financial risks as any user of its LIDB Access Service because United uses the same database to validate its own LIDB queries.

Additionally, subscribers to United's LIDB Access Service are not obligated to validate every call. Failure to validate all calls can render the best fraud control methods

ineffective. In short, potential LIDB Access Service customers are requesting that United tariff measures which those customers can thwart in a manner wholly outside of United's control.

United further objects to including database update standards and fraud control detail in its tariff because this detail would provide a road map for the sophisticated abusers of the telecommunications network. Additionally, various groups within the industry are always working toward improved fraud control and detection mechanisms; as well as updating fraud prevention systems. Because of this ongoing activity, United would be faced with virtually a steady stream of tariff updates.

Finally, page 24, section 2.1.3 of Tariff F.C.C. No. 5 clearly specifies United's liability for all services, including LIDB Access and CCS/SS7 Interconnection, offered under the Tariff.

II. ISSUE: Should the tariffs contain additional detail regarding the technical parameters for the CCS interconnection link?

RESPONSE: The Bureau already decided that no additional details are required. On November 14, 1991 the Bureau granted United's requested waiver of Section 61.74(a) of the Commission's rules to reference technical publications TR-NPL-000246, TR-TSY-000271, TR-TSV-000905 and TR-TSV-000954 that establish the technical parameters associated with the provision of United's CCS/SS7 Interconnection and LIDB Access Services. These

technical publications are referenced at pages 20.1, 20.2 and 20.2.1 of Tariff FCC No. 5 and reflect the current issued date of each publication.

United further provided reference in Section 6.1.3(B)(5)(a)(i), page 292.2 of Tariff FCC No. 5 regarding CCS/SS7 Interconnection Service, to technical specifications and compatible channel interfaces contained in the Special Access provisions of Section 7 of Tariff FCC No. 5. These technical specifications and compatible channel interfaces in Section 7 provide ample guidance to customers requesting a 56 Kbps or the optional DS-1 (1.544 mbps) for a CCS/SS7 interconnection link.

III. ISSUE: Are the rate levels established in the tariffs excessive? The ORDER specifies four specific issues to be addressed.

RESPONSE: United's rates are reasonable and have been developed in compliance with the Price Cap requirements established in the Order on Reconsideration.⁴ The capital, expenses, and loading factors used in determining the rates are set out and explained in great detail in the D&J.

(1) ISSUE: Bell Communications Research, Inc. has developed a cost model called "Common Channel Signaling Cost Information System" (CC SCIS). Any carrier who relied on CC SCIS

4. In the Matter of Policy and Rules Concerning Rates for Dominant Carriers, CC Docket No. 87-313, Order on Reconsideration, 6 FCC Rcd 2637 (1991).

to develop its rates must explain why use of such a model is appropriate for common channel signaling services.

RESPONSE: As detailed in the D&J, United used the Bellcore developed CC SCIS model to determine the direct capital cost of common channel signaling services. The specific items of direct capital costs and associated dollar amounts are specified in Exhibits 4-1, 4-3 through 4-9, 4-13, and 4-14 of the D&J which are attached hereto as Attachment A and incorporated herein. As set out in the D&J and as more fully explained below in response to designated issue III(4), additions to the direct capital cost were made to calculate the appropriate rate.

United asserts that the CC SCIS model is the appropriate model to use for allocating the capital costs of CCS services. The model was designed by Bellcore to be engineering oriented, while using economic theory to produce the individual costs of technology-specific CCS network functions and to assign the costs of shared CCS equipment to individual CCS services. The model is a bottom up cost calculator and is supported by the equipment manufacturers.

(2) ISSUE: Those carriers who did not use CC SCIS to allocate investment should fully explain how they identified the plan used to provide LIDB service.

RESPONSE: See response to No. (1) above.

(3) ISSUE: All filing carriers should provide total investment underlying each of the four rate elements and identify

the accounts established by Part 32 of the Commission's Rules, 47 C.F.R. Part 32, in which these investments are recorded.

RESPONSE: United's total investment for the four rate elements (CCS/SS7 Access Link Charges, STP Port Charge, Query Transport Charge, Query Charge) are specified in Exhibits 4-1, 4-3 through 4-9, 4-13 and 4-14 of the D&J. The Part 32 account classifications for the investments underlying the CCS/SS7 Access Link Charge are set out in Attachment B to this Direct Case. For LIDB Access Service purposes, CCS/SS7 Access Links must be ordered from United Telephone-Southeast where the facilities are provisioned.

The investments for the STP Port Charge, Query Transport Charge and the Query Charge are associated specifically with United's mated pair of STPs and SCPs located in Johnson City and Bristol, Tennessee and with Database Administration System ("DBAS") hardware located in Overland Park, Kansas. The United Telephone companies are comprised of eight tariff filing entities and 16 separate legal entities. Given the costs of acquiring and operating STPs and SCPs and given the technical ability of the SS7 network assets, it would have been economically infeasible and irresponsible to acquire more than one mated pair of STPs and SCPs for LIDB purposes. Accordingly, Sprint/United Management Company ("S/UMC"), a nonregulated affiliate of the United Telephone companies, owns, operates, and manages these assets. The associated investment is recorded in its financial books and

not in the Part 32 investment accounts of the United Telephone companies.

The operating costs associated with these assets, including depreciation expense and a rate of return component (11.25%), are appropriately allocated to each United Telephone company. In turn, each United Telephone company records these costs in the associated Part 32 expense accounts. For example, the costs associated with the DBAS hardware are recorded in the Part 32 expense account 6623, Customer Services. This transaction is described in the United Telephone System Cost Allocation Manual at Section V. p. 3

(4) ISSUE: All filing carriers should identify and fully document all factors applied to the investment identified in response to the requests for information above to develop the rates, cross-referencing to Automated Reporting Management Information System (ARMIS) data where possible.

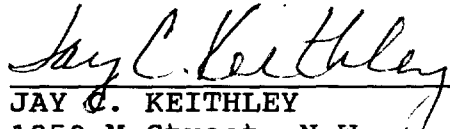
RESPONSE: For ratemaking purposes, United applies certain factors to the direct capital costs identified in III(3) above. These factors include a direct capital loading factor for uninterruptable power, land and buildings, and miscellaneous investment for test equipment and spares. The resulting loaded direct capital cost is multiplied by the annual carrying factor that includes depreciation, return, taxes, and maintenance. An overhead loading factor is then applied. The details of the overhead loading factor and associated ARMIS cross-references

were contained in D&J Exhibit 4-2, a copy of which is attached hereto as Attachment C and incorporated herein. The application of all of these factors for each specific rate element was explained in pages 4-1 through 4-9 of the D&J which is attached hereto as Attachment D and incorporated herein. The specific application of these factors to the capital costs and the detail of the rate development is documented in Exhibits 4-1, 4-3 through 4-9, 4-13 and 4-14 to the D&J which are attached hereto as Attachment A and incorporated herein.

Respectfully submitted,

UNITED TELEPHONE COMPANIES

By


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April 21, 1992

UNITED TELEPHONE COMPANIES

CC DOCKET 92-24

ATTACHMENT A

EXHIBIT 4-1

CCS/SS7 INTERCONNECTION SERVICE

STP PORT MONTHLY (FLAT RATE) COST

AMOUNT/FACTOR	ITEM
1. \$ 13,880	Total Direct Capital Costs: STP Port Card & RTU Fee, Cluster Controller & RTU Fee, Digital Patch Panel, and 56 kbps CSU/DSU
2. 1.085	Direct Capital Loading Factor: 2.0% Uninterruptable Power 1.0% Land and Buildings, and High Volume AC 5.5% Misc. Investment - Test Equip. & Spare
3. \$ 15,060	Loaded Direct Capital Costs (L1 x L2)
4. .3036	Annual Carrying Charge Factor: Depreciation, Return, Taxes and Maintenance
5. \$ 4,572	Total Annual Cost (L3 x L4)
6. \$ 381	Monthly Cost (L5 / 12 Months)
7. 1.2796	Overhead Loading Factor (Exhibit 4-2)
8. \$ 488	Total Monthly Cost per STP Port (L6 x L7)
9. \$ 485	<u>Tariff Rate</u>

EXHIBIT 4-3

CCS/SS7 INTERCONNECTION SERVICE - ACCESS LINK COSTS

MONTHLY COST PER 56.0 KBPS SERVICE TERMINATION

AMOUNT/FACTOR	ITEM
1. \$ 1,577	Total Direct Capital Costs: Average Facility (Cable & Wire) and COE Circuit Equipment (Including CO Shelves, Term Sets, Blocks and Wiring), and Network Channel Interface
2. 1.085	Direct Capital Loading Factor: 2.0% Uninterruptable Power 1.0% Land and Buildings, and High Volume AC 5.5% Misc. Investment - Test Equip. & Spare
3. \$ 1,711	Loaded Direct Capital Costs (L1 x L2)
4. .3234	Annual Carrying Charge Factor: Depreciation, Return, Taxes and Maintenance
5. \$ 553	Total Annual Cost (L3 x L4)
6. \$ 46	Monthly Cost (L5 / 12 Months)
7. 1.2796	Overhead Loading Factor (Exhibit 4-2)
8. \$ 59	Total Monthly Cost (L6 x L7)
9. \$ 59	<u>Tariff Rate</u>

EXHIBIT 4-4

CCS/SS7 INTERCONNECTION SERVICE - ACCESS LINK COSTS
MONTHLY COST PER 56.0 KBPS CHANNEL MILEAGE TERMINATION
(ALL MILEAGE BANDS)

AMOUNT/FACTOR	ITEM
1. \$ 1,765	Total Direct Capital Costs: Channel Banks, Channel Units, Line Terminating Equipment, Office Repeaters, and DSX Panels
2. 1.085	Direct Capital Loading Factor: 2.0% Uninterruptable Power 1.0% Land and Buildings, and High Volume AC 5.5% Misc. Investment - Test Equip. & Spare
3. \$ 1,915	Loaded Direct Capital Costs (L1 x L2)
4. .3036	Annual Carrying Charge Factor: Depreciation, Return, Taxes and Maintenance
5. \$ 581	Total Annual Cost (L3 x L4)
6. \$ 48	Monthly Cost (L5 / 12 Months)
7. 1.2796	Overhead Loading Factor (Exhibit 4-2)
8. \$ 62	Total Monthly Cost (L6 x L7)
9. \$ 62	<u>Tariff Rate</u>

EXHIBIT 4-5

CCS/SS7 INTERCONNECTION SERVICE - ACCESS LINK COSTS
MONTHLY COST PER 56.0 KBPS CHANNEL MILEAGE FACILITY
(ALL MILEAGE BANDS)

AMOUNT/FACTOR	ITEM
1. \$ 85.52	Total Direct Capital Costs: Outside Plant Facilities, Repeaters and Cable Housings
2. 1.085	Direct Capital Loading Factor: 2.0% Uninterruptable Power 1.0% Land and Buildings, and High Volume AC 5.5% Misc. Investment - Test Equip. & Spare
3. \$ 92.79	Loaded Direct Capital Costs (L1 x L2)
4. .3234	Annual Carrying Charge Factor: Depreciation, Return, Taxes and Maintenance
5. \$ 30.01	Total Annual Cost (L3 x L4)
6. \$ 2.50	Monthly Cost (L5 / 12 Months)
7. 1.2796	Overhead Loading Factor (Exhibit 4-2)
8. \$ 3.20	Total Monthly Cost (L6 x L7)
9. \$ <u>3.20</u>	<u>Tariff Rate</u>

EXHIBIT 4-6

CCS/SS7 INTERCONNECTION SERVICE - ACCESS LINK COSTS

MONTHLY COST PER 1.544 MBPS SERVICE TERMINATION

(ALL MILEAGE BANDS)

AMOUNT/FACTOR	ITEM
1. \$ 4,423.19	Total Direct Capital Costs: Average Facility (Cable & Wire) and COE Circuit Equipment (Including CO Shelves, Term Sets, Blocks and Wiring), and Network Channel Interface
2. 1.085	Direct Capital Loading Factor: 2.0% Uninterruptable Power 1.0% Land and Buildings, and High Volume AC 5.5% Misc. Investment - Test Equip. & Spare
3. \$ 4,799.16	Loaded Direct Capital Costs (L1 x L2)
4. .3234	Annual Carrying Charge Factor: Depreciation, Return, Taxes and Maintenance
5. \$ 1,552.05	Total Annual Cost (L3 x L4)
6. \$ 129.34	Monthly Cost (L5 / 12 Months)
7. 1.2796	Overhead Loading Factor (Exhibit 4-2)
8. \$ 165.50	Total Monthly Cost (L6 x L7)
9. \$ <u>165.50</u>	<u>Tariff Rate</u>

EXHIBIT 4-7

CCS/SS7 INTERCONNECTION SERVICE - ACCESS LINK COSTS
MONTHLY COST PER 1.544 MBPS CHANNEL MILEAGE TERMINATION
(ALL MILEAGE BANDS)

AMOUNT/FACTOR	ITEM
1. \$ 1,850	Total Direct Capital Costs: Channel Banks, Channel Units, Line Terminating Equipment, Office Repeaters, and DSX Panels
2. 1.085	Direct Capital Loading Factor: 2.0% Uninterruptable Power 1.0% Land and Buildings, and High Volume AC 5.5% Misc. Investment - Test Equip. & Spare
3. \$ 2,008	Loaded Direct Capital Costs (L1 x L2)
4. .3036	Annual Carrying Charge Factor: Depreciation, Return, Taxes and Maintenance
5. \$ 610	Total Annual Cost (L3 x L4)
6. \$ 51	Monthly Cost (L5 / 12 Months)
7. 1.2796	Overhead Loading Factor (Exhibit 4-2)
8. \$ 65	Total Monthly Cost (L6 x L7)
9. \$ <u>65</u>	<u>Tariff Rate</u>

EXHIBIT 4-8

CCS/SS7 INTERCONNECTION SERVICE - ACCESS LINK COSTS
MONTHLY COST PER 1.544 MBPS CHANNEL MILEAGE FACILITY
(ALL MILEAGE BANDS)

AMOUNT/FACTOR	ITEM
1. \$ 695	Total Direct Capital Costs: Outside Plant Facilities, Repeaters and Cable Housings
2. 1.085	Direct Capital Loading Factor: 2.0% Uninterruptable Power 1.0% Land and Buildings, and High Volume AC 5.5% Misc. Investment - Test Equip. & Spare
3. \$ 754	Loaded Direct Capital Costs (L1 x L2)
4. .3234	Annual Carrying Charge Factor: Depreciation, Return, Taxes and Maintenance
5. \$ 244	Total Annual Cost (L3 x L4)
6. \$ 20	Monthly Cost (L5 / 12 Months)
7. 1.2796	Overhead Loading Factor (Exhibit 4-2)
8. \$ 26	Total Monthly Cost (L6 x L7)
9. \$ 26	<u>Tariff Rate</u>

EXHIBIT 4-9

CCS/SS7 INTERCONNECTION SERVICE - ACCESS LINK COSTS

MONTHLY COST PER DS1/DSO MULTIPLEXING ARRANGEMENT

(ALL MILEAGE BANDS)

AMOUNT/FACTOR	ITEM
1. \$ 9,252	Total Direct Capital Costs: Channel Banks, DSX Panel, Relay Rack, Fuse and Alarm Panel, and Common/Channel Units
2. 1.085	Direct Capital Loading Factor: 2.0% Uninterruptable Power 1.0% Land and Buildings, and High Volume AC 5.5% Misc. Investment - Test Equip. & Spare
3. \$ 10,039	Loaded Direct Capital Costs (L1 x L2)
4. .3036	Annual Carrying Charge Factor: Depreciation, Return, Taxes and Maintenance
5. \$ 3,048	Total Annual Cost (L3 x L4)
6. \$ 254	Monthly Cost (L5 / 12 Months)
7. 1.2796	Overhead Loading Factor (Exhibit 4-2)
8. \$ 325	Total Monthly Cost (L6 x L7)
9. \$ 325	<u>Tariff Rate</u>

EXHIBIT 4-13

LIDB ACCESS SERVICE

USAGE SENSITIVE (PER QUERY BASIS) QUERY TRANSPORT COST

AMOUNT/FACTOR	ITEM
1. \$ 485,000	Total Direct Capital Costs: STP Switching, STP Exit Port, and provisioning links STP to SCP including STP Terminating Equipment
2. 1.085	Direct Capital Loading Factor: 2.0% Uninterruptable Power & High Volume AC 1.0% Land and Buildings 5.5% Misc. Investment - Test Equip. & Spare
3. \$ 526,225	Loaded Direct Capital Costs (L1 x L2)
4. .3036	Annual Carrying Charge Factor: Depreciation, Return, Taxes and Maintenance
5. \$ 159,762	Total Annual Cost (L3 x L4)
6. 118,415,000	Annual Demand (LIDB STP Transactions)
7. \$ 0.00130	Cost per Query Transport Transaction (L5 / L6)
8. 1.2796	Overhead Loading Factor (Exhibit 4-2)
9. \$ 0.00173	Total Cost per Query Transport Transaction (L7 x L8)
10. \$ <u>0.0016</u>	<u>Tariff Rate</u>

EXHIBIT 4-14**LIDB ACCESS SERVICE****USAGE SENSITIVE (PER QUERY BASIS) QUERY COST**

AMOUNT/FACTOR	ITEM
1. \$ 3,811,200	LIDB & SCP Direct Capital Costs: SCP Link Termination Equip., SCP Equipment for LIDB Functionality, and Interconnection Links Between SCP and DBAC Locations
2. \$ 1,720,000	DBAS Direct Capital Costs: DBAS Hardware Upgrade and DBAS-2 Software RTU Fee
3. \$ 5,531,200	Total Direct Capital Costs (L1 + L2)
4. 1.085	Direct Capital Loading Factor: 2.0% Uninterruptable Power 1.0% Land and Buildings & High Volume AC 5.5% Misc. Investment - Test Equip. & Spare
5. \$ 6,001,352	Loaded Direct Capital Costs (L3 x L4)
6. .3036	Annual Carrying Charge Factor: Depreciation, Return, Taxes and Maintenance
7. \$ 1,822,010	Direct Annual Cost (L5 x L6)
8. \$ 544,933	DBAC Administration Costs
9. \$ 1,186,880	INO Operating Costs
10. \$ 3,553,823	Total Annual Cost (L7 + L8 + L9)
11. 118,415,000	Annual Demand (LIDB STP Transactions)
12. \$ 0.03000	Cost per Query (Transaction) (L10 / L11)
13. 1.2796	Overhead Loading Factor (Exhibit 4-2)
14. \$ 0.03840	Total Cost per Query (L12 x L13)
15. \$ 0.0384	<u>Tariff Rate</u>

UNITED TELEPHONE COMPANIES

CC DOCKET 92-24

ATTACHMENT B

ATTACHMENT B

UNITED TELEPHONE COMPANIES

CC Docket No. 92-24

FCC PART 32 Accounts for CCS/SS7
Interconnection - Access Link Cost

<u>Part 32 Account Code</u>	<u>Account Title</u>
2111	Land
2121	Buldings
2232	Circuit Equipment-
	Digital/Fiber Optic
2411	Poles
2421	Aerial Cable
2422	Underground Cable
2423	Buried Cable
2441	Conduit Systems
	Digital/Fiber Optic

UNITED TELEPHONE COMPANIES

CC DOCKET 92-24

ATTACHMENT C

EXHIBIT 4-2

CCS/SS7 INTERCONNECTION SERVICE AND LIDB ACCESS SERVICE

OVERHEAD LOADING FACTOR DEVELOPMENT

ITEM	SOURCE	AMOUNT
1. Rev. Req @ 11.25% ROI	ARMIS *	\$ 98,066,351
<u>Investments</u>		
2. CO Equip. - Switching	L 1640 *	\$ 32,162,261
3. CO Equip. - Loc Transport	L 1650 *	\$ 154,452,276
4. Cable and Wire	L 1660 *	\$ 65,855,820
5. Tot, Local Transport Invest.	L2 + L3 + L4	\$ 252,470,357
6. FDC Factor	L1 / L5	0.388427
7. Direct Annual Cost Factor	Part 36 SACS	0.303561
8. Overhead Loading Factor	L6 / L7	1.279568
9. Overhead Loading Factor	Rounded	1.2796

* 1990 United Telephone System ARMIS Report